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Panel mounted equipment – Electrical measuring instruments – Dimensions for panel mounting

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CONTENTS

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PANEL MOUNTED EQUIPMENT – ELECTRICAL MEASURING INSTRUMENTS – DIMENSIONS FOR PANEL MOUNTING

FOREWORD

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 61554:1999. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 61554 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities. It is an International Standard.

This second edition cancels and replaces the first edition published in 1999. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Add more sizes and tolerances of instruments and some practical information for panel mounting which were not mentioned in IEC 61554:1999;
b) Modify several current sizes and tolerance of instruments;
c) Update the figures in Annex A;
d) Change Annex A from informative to normative.

The text of this International Standard is based on the following documents:

Draft	Report on voting
85/949/FDIS	85/956/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

PANEL MOUNTED EQUIPMENT – ELECTRICAL MEASURING INSTRUMENTS – DIMENSIONS FOR PANEL MOUNTING

1 Scope

This document defines a system of dimensions for panel mounting of equipment. It is applicable to electrical and electrically operated indicating, recording and control instruments.

It applies to the following types of instruments with protruding bezels:

- instruments with square housing;
- instruments with rectangular housing with lateral orientation;
- instruments with rectangular housing with upright orientation;
- instruments with round housing and square bezel;
- instruments with round housing and rectangular bezel.

The purpose of this document is to establish dimensional interchangeability between instruments made by different manufacturers. To fulfil this requirement, a defined set of dimensions has been chosen. Using these dimensions, it ~~should~~ will be easier to combine instruments of different sizes on the same panel making good use of the available panel space and to produce a satisfactory layout.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2768-1, *General tolerances – Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

3.1
cut-out
hole in the panel into which the instrument or group of instruments is inserted

3.2
bezel
front projecting surface or rim around the housing of the instrument

3.3
instrument size
overall maximum width and height of the bezel

4 Requirements

4.1 General

The instrument size serves as a basis for defining the various dimensions which permit interchangeability of the instrument.

Only positive tolerances are allowed for cut-out dimensions and only negative tolerances for the instrument size.

The dimensions of the housings of the instruments are not specified in this document. The only exception to this is instruments with round housing which ~~are~~ shall be covered in Annex A.

Instruments that are mounted together in a common cut-out are shown as mounted without any gaps between them. The method for determining the dimensions of the common cut-out is specified below.

In Figure 1 to Figure 4 and Table 1 , the following symbols are used:

$A1$ bezel width;
$A2$ bezel height;
$L1$ cut-out width;
$L2$ cut-out height.

4.2 Instrument size designation

The size designation of instruments complying with the requirements of this standard shall be as follows:

IEC 61554 – $A1 \times A2$

4.3 Dimensions of the cut-out

In general, the dimensions of the cut-out shall allow easy central mounting of the instrument into that cut-out.

On each side, the housing of the instrument shall have a clearance of at least 0,2 mm against the cut-out of 48 mm or at least 0,5 mm for all other instruments. The maximum value of this clearance shall be such that it shall still allow the instrument to find a position where the cut out is not visible.

4.4 Individual cut-out mounting

The nominal instrument sizes and the corresponding cut-out sizes and maximum tolerances for the different shapes of instruments shown in Figure 1, Figure 2 and Figure 3 are given in Table 1.

The series of nominal instrument sizes and cut-out sizes can be extended according to the logical sequence of values. Values for the corresponding upper tolerances shall be in accordance with the relevant tolerance range specified in ISO 2768-1.